



US006335539B1

(12) **United States Patent**
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(10) **Patent No.:** **US 6,335,539 B1**
(45) **Date of Patent:** **Jan. 1, 2002**

(54) **METHOD FOR IMPROVING
PERFORMANCE OF ORGANIC
SEMICONDUCTORS IN BOTTOM
ELECTRODE STRUCTURE**

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(57) **ABSTRACT**

(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 0 days.

A method for improving the performance of an organic thin
film field effect transistor comprising the steps of: (a)
forming a transistor structure having patterned source and
drain electrodes; and (b) treating the patterned source and
drain electrodes with a thiol compound having the formula,
RSH, wherein R is a linear or branched, substituted or
unsubstituted, alkyl, alkenyl, cycloalkyl or aromatic con-
taining from about 6 to about 25 carbon atoms under
conditions that are effective in forming a self-assembled
monolayer of said thiol compound on said electrodes.
Organic thin film transistor structures containing the self-
assembled monolayer of the present invention are also
disclosed.

(21) Appl. No.: **09/434,365**

(22) Filed: **Nov. 5, 1999**

(51) **Int. Cl.**⁷ **H01L 35/24**

(52) **U.S. Cl.** **257/40; 438/99**

(58) **Field of Search** 257/40, 57; 438/99,
438/149, 151, 158, 161, 197

(56) **References Cited**

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19 Claims, 1 Drawing Sheet

